

effusion, especially in young persons, after peritonitis, it is often extremely difficult to produce absorption, and paracentesis is sometimes advisable.

"Peritonitis with *cancerous* disease is always associated with enfeebled power and diminished functional activity. Remedies such as diuretics have very little effect in promoting the absorption of fluid, and any measures which still further diminish strength appear to increase dropsical effusion. To sustain the powers of life by every available means is the best preventive against this result. If acute symptoms supervene, the opiate plan of treatment must be followed with rest and bland nutritious diet. If paracentesis be performed, temporary relief may be obtained; but more frequently the patient very rapidly declines, and we then find that the whole of the diseased peritoneal surface has increased in vascularity, and lymph is poured out.

"Peritonitis with cirrhosis is generally found in persons who have been of intemperate habits; the arteries are often diseased, and the kidneys may be granular and atrophied. At an early stage of the disease, when the diet can be regulated, and the excretory functions of the liver, the kidneys and the skin stimulated to increased action, the symptoms may, in a great degree, be alleviated; and when acute peritonitis is set up with cirrhosis, no class of cases are more benefited by the judicious use of the ordinary remedies for peritonitis, namely, local depletion, and mercurials with opium, on account of the stimulant effect which mercurials have on the excretory glands; but all the good effect of mercury may be attained without that remedy being used so as to produce salivation."

In chronic peritonitis associated with advanced cirrhosis, Dr. H. does not hold out hopes of success from any course of treatment. He considers that our measures in this condition can at best be only palliative. "Some," he remarks, "have recommended mild mercurial salivation before tapping, to prevent the supervention of acute symptoms; but we have no experience in such an application of this medicine, and believe, that if tapping be really necessary, mercurial salivation would be detrimental, and would increase the exhaustion which often follows the operation, or that the mercurial cachexia would lead to the speedy reaccumulation of the fluid. Mercurial frictions are less objectionable when used with moderation; and minute doses of blue pill, with tonics, as quinine, or with aperients, are, in many instances of chronic peritonitis from hepatic disease, of great service. Other remedies may also be tried, as diuretics, iodide of potassium, nitro-hydrochloric acid, &c., but the persistent congestion of the vena portæ interferes with their absorption and with their beneficial action. Nearly the same remarks apply to the treatment of peritonitis coming on in the course of chronic disease of the heart and of the lungs. In these cases I never recommend paracentesis, unless compelled by the urgent distress from enormous distension."

Dr. H. does not believe that the benefit generally ascribed to mercury in the treatment of acute peritonitis is an established fact, a doubt in which we must say we do not participate, though we are free to confess that a portion of the relief which has followed its use may be due to the opium with which it is usually combined.

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ART. XXVII.—*Anatomy of the Arteries of the Human Body, Descriptive and Surgical, with the Descriptive Anatomy of the Heart.* By JOHN HATCH POWER, M. D., Fellow and Member of Council, of the Royal College of Surgeons; Professor of Descriptive and Practical Anatomy in the Royal College of Surgeons; Surgeon to the City of Dublin Hospital, etc. Authorized and adopted by the Surgeon General of the United States Army for Use in Field and General Hospitals. Philadelphia: J. B. Lippincott and Co., 1862, 12mo. pp. 401.

A short notice of the English edition of this work was given in the number of this Journal for April, 1861. As the work has now been republished in this country, and more particularly as it appears under the authority of the Surgeon

General, and has been adopted by him for use in the Field and General Military Hospitals of the United States, a more extended notice seems to be required.

In the preface the author says: "The present work has been undertaken chiefly with the view of assisting the student whilst engaged in the study of practical anatomy, and of affording him such practical information in connection with the anatomy of the arterial system, as may be of advantage to him long after his studies have been completed.

"For the purpose of effecting these desirable objects, I have endeavoured to simplify as much as possible the anatomical details, and to bring together such material facts in relation to the operations upon the principal arteries of the body, as may lead to correct conclusions relative to the treatment of the various accidents and diseases to which these vessels are exposed."

He subsequently says, that he has not overlooked the fact that there are many practitioners, particularly those in rural districts, who do not possess any opportunity of refreshing their memories upon anatomical points by actual dissection, and that he is not without hope that, to such, the present volume may afford some useful hints as to the relations of those bloodvessels which, from time to time, may become the subject of their operations.

The description by Dr. Power, of the anatomy of the heart is clear, succinct, and correct. The directions given to guide in its dissection are not, however, as numerous or as judicious as they should be. For example, to see the internal surface of the right auricle, the student is advised to make one incision in a vertical direction through the front of the auricle, connecting the orifices of the superior and inferior venæ cavæ, and a second in a slightly curved direction, the convexity directed downwards, commencing at the lower part of the right auricular appendix, and terminating in the superior extremity of the preceding incision. This purpose is effected much better, by a transverse incision from the auricle to the inferior vena cava, and a vertical one beginning at the superior vena cava and meeting the other in its centre. Again, to expose the interior of the right ventricle a V-shaped incision, one branch of which is on the right edge of the heart, and the other along the anterior fissure, is decidedly preferable to an incision in the direction of the axis of the heart, and close to the septum ventriculorum. The figures by which the anatomy of the heart is illustrated are remarkably coarse.

In describing the arteries, Dr. Power gives an excellent account of the origin, the situation, the direction, the form, the anastomoses, and the relations of each particular vessel. Of the manner in which arteries terminate, and of the tissues of which they are composed, not one word, however, is said. The student is left in entire ignorance as to whether the arteries are continuous with the veins, or any other bloodvessels, and as to whether they possess one coat or a dozen. There is another point, moreover, of infinite practical importance, to which no reference is made, and this is, the general relations existing throughout the body, between the arterial system, and the veins, the nerves, the aponeuroses, the muscles, and the bones. A knowledge of them is of the greatest service to the surgeon in assisting in the recollection of the particular relations of every particular artery. As these general relations are quite commonly omitted in works on anatomy, it may be well to enter somewhat into their consideration, in order to set forth more clearly the value we attach to them, and the importance of not omitting them in a work of the pretensions of the one before us.

There is but one vein accompanying the arterial trunk of the body, the neck, the head, and the origin of the limbs; for the arteries distributed to the arm, the forearm, and the hand, and also to the leg and the foot, there are two. When there are two accompanying veins, the artery is always between them; the veins being either to the right and left, or before and behind. The knowledge of the relative situation of these vessels is of great importance in surgery, for it is not always easy to distinguish an artery from a vein, and it is very important to make the distinction when hemorrhage must be arrested by the application of a ligature. There can be no uncertainty in the selection of the vessel, if, after having exposed the three parallel tubes, the operator recollects that the one placed between the others is *always* part of the arterial system. In those places

where the artery is accompanied by only one vein, the vein is generally the more superficial. Thus, the internal jugulars are nearer the skin than the primitive carotids, the subclavian veins are more anterior than the corresponding arteries, and the axillary and the crural veins are more internal (towards the centre of the body) than the arteries of the same name.

The arteries are always more deeply seated than the nerves by which they are accompanied. Thus, the cords of the brachial plexus are nearer the skin than the subclavian artery; the median and cubital nerves cover the axillary artery; the median nerve passes before the brachial artery and places itself then on its internal side; the radial and ulnar nerves are situated, one outside of the radial artery, the other inside of the ulnar, so that these vessels are nearer the axis of the forearm, and the nerves nearer the integuments. On the thigh, the crural nerve occupies likewise the external and anterior side of the femoral artery, and the internal saphenous nerve runs along the anterior portion of the same vessel. To be brief, then, the law determining the respective positions of the arteries and the veins, is also that regulating the relations of the nerves with the arteries; and this law is itself derived from the constant tendency, presented by the arteries, to hide themselves among the most deeply seated parts. The general relations of the arteries, the veins, and the nerves, can be expressed by saying that an incision practised upon one of the limbs for the purpose of dividing these different organs, would meet first the nerves, then the veins, and lastly the arteries.

The general relations of the arteries with the aponeuroses of the limbs; with the muscles, particularly those projecting under the skin by which the course of an artery can often be decided just as from the study of bony eminences, articular lines are recognized; and with the bones, regulating the most favourable places for exercising compression, are of very great practical interest. The general relations of arteries with the common cellular tissue of the body, are not to be overlooked. This tissue is close, when the artery is contiguous to a vein, and on the contrary very loose, at all points where it is in contact with fibrous, muscular, or bony surfaces. From this it happens that the vein and the artery are associated in the various displacements they undergo; and it is owing to this also that in applying a ligature the separation of the artery from the vein is the most difficult part in isolating the vessel, and that when there are two veins the difficulty is much increased. This cellular tissue around the vessels is traversed by numerous small bloodvessels, that supply the walls of the arteries; and when an artery is isolated to apply a ligature, these vessels are torn as well as the surrounding cellular tissue; hence, it is so important, in isolating an artery not to surpass the limits necessary to the success of the operation.

We believe that the importance of the consideration of the general relations of the arteries will be obvious to all, and that we may justly complain at not finding any reference to them in the book here presented to us.

The figures illustrating the anatomy of the arterial system are more neatly executed than those representing the heart.

Beside the account of the anatomy of the different arteries, a description is given of the mode of ligating certain amongst them. Here, again, we think, explanation should have been given of the action of the ligature, together with general rules to guide in its application. It is only by a perfect understanding of general principles and general rules that a particular operation can be safely and skilfully practised. In a work designed for students, wherein the operation of placing a ligature upon certain arteries is described, it seems to us a great omission to have said nothing of the three coats of the arteries, of the action of threads of different thickness upon these coats, of the effect of arresting the circulation of the blood, of the pathological processes that take place in the ligated vessel, and of the instruments that are required in the operation, and the manner in which they are to be used in seizing, isolating, and surrounding the artery with the thread.

As to the several operations described by Dr. Power for ligating the particular arteries, they are by no means such as a student could readily and successfully practise. If we take, for example, the lingual artery, we are told here that it "may be exposed by an incision extending transversely from the os hyoides to

the margin of the sterno-mastoid muscle. The skin, platysma, and fascia being divided, the glistening tendon of the digastric muscle is brought into view; beneath this, and lower down, is the hypo-glossal nerve, much duller in its appearance than the tendon; whilst the artery will be found situated still lower and a little deeper than the nerve" (p. 99). A much safer and surer direction for reaching the artery would be to direct an incision to be made one and a half inches long, two lines above the great horn of the hyoid bone, and parallel to it, through the skin and platysma muscle; the lower border of the submaxillary gland is thus reached. The gland should be turned up out of the way, as a muscle would be, and beneath it the shining tendon of the digastric muscle is seen, embraced by the stylo-hyoides. Detaching these muscles from the hyoid bone, and turning them up, the hypo-glossal nerve is reached; just below this nerve, divide transversely the hypo-glossal muscle, and the artery is found.

When treating of the brachial and the femoral arteries some mention is made by Dr. Power of the employment of compression in the treatment of aneurism of these vessels; but the principles by which external pressure is to be methodically employed, the various instruments to be used, and the satisfactory results to be thereby attained, are not related. This is the more astonishing inasmuch as Dr. Power's work was originally published in Dublin, where so much has been done in this mode of treating aneurism. We can find no mention whatever made of the treatment of aneurism by forced flexion of the limb, nor of the adoption of this position for the arrest of the arterial circulation in cases of hemorrhage in the lower portions of the upper and lower extremities.

The reflections we have made upon Dr. Power's book, as one professing to treat of the descriptive anatomy of the heart, and of the descriptive and surgical anatomy of the arteries, must apply with still greater propriety to the same work when announced as a surgical anatomy of the arteries, and as issued for the use of surgeons on the field of battle and in army hospitals. In such a work a long account of the anatomy of the heart, of the distribution of the branches of the internal carotid, of the circulation of the blood in the liver, and of the pulmonary arteries, is not only unnecessary, but the book is increased in size, and therefore more cumbersome and less easy of reference. This will be found the more annoying, when the work shall be consulted in a hurry, as we must imagine it is intended to be when used on the field of battle, by the absence of an index to its contents.

In conclusion we may say that this work is a good manual for the use of students in pursuing their dissections; imperfect as a guide to aid the surgeon in performing operations, and defective and unsatisfactory as a work for hurried reference. We cannot, therefore, notwithstanding the high estimation in which we hold the approbation of the surgeon-general of the U. S. army, but regard it as unsuited for the purpose for which it has been issued in this country.

W. F. A.

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ART. XXVIII.—*The Institutes of Medicine.* By MARTYN PAINE, M.D., LL.D., Professor of the Institutes of Medicine and Materia Medica in the University of the City of New York, etc. etc. etc. Seventh edition. 8vo. pp. 1130. New York, 1862. Harper & Brothers.

WE cordially welcome this new edition of Dr. Paine's Institutes. The continued demand for the work must be received as evidence that it is duly appreciated by a large number of the reading and reflecting portion of the medical profession of our country. These Institutes are not only replete with truths in relation to physiology, pathology, and therapeutics, respectively, but in the doctrines inculcated by the author in each of these departments of medicine, will be found many thoughts of a highly suggestive character, which, if carried out to their legitimate results, cannot fail to lead to a recognition of the important truth that, in all his ministrations, the physician has to do with a living vital organism, all of whose abnormal states are to be received as